THE WINTER MEETING OF THE VERMONT BOTANICAL CLUB.

NELLIE F. FLYNN.

THE fourteenth annual meeting of the Vermont Botanical Club was held at Middlebury, January 21–23, 1909, in conjunction with the Vermont Bird Club and the New England Federation of Natural History Societies. The joint programme was diverse and full of highly interesting features. Only the botanical papers can be mentioned here and these briefly.

Dr. Brainerd of Middlebury spoke of fifteen hybrids possible in a group of six related Aspidiums. Most of these hybrids have already been found, many of them in Vermont.

Mr. W. H. Blanchard of Westminster discussed many new species and forms of Rubus. The fact was pointed out that no less than sixteen of these are included in the new edition of Gray's Manual.

Prof. L. R. Jones of the University of Vermont spoke of the grasses, especially of the genera Agropyron, Agrostis, and Panicum, and showed the changes of classification and nomenclature of these groups as treated in the new Gray's Manual and in the revised Flora of Vermont now in preparation.

Mr. W. W. Eggleston of Washington, D. C., discussed from the same point of view some difficult genera of the Rose Family, especially Amelanchier, the Shad Bushes.

Misses A. L. Carpenter and Mary Robinson, of the University of Vermont, presented a revised list of Vermont ferns, classified according to the new Manual, with the result that no less than six species, varieties, and forms are added to the old list.

Mr. Rufus Crane of Middlebury College read an interesting paper on "Hybrid Baneberries" and exhibited specimens of the red and white baneberries and of some anomalous intermediate forms. These were mentioned by Dr. Gray forty years ago, but only one is described in the new edition of Gray's Manual. Mr. Crane and Dr. Brainerd have recently found evidence that these forms are probable hybrids, which follow Mendel's law. In the hybrids the red color dominates over the white, and the seeds are reduced in number, indicating a loss of fertility.

Mr. J. E. Crane of Middlebury spoke interestingly of the different plants from which bees gather honey. The number was larger than is generally supposed. Samples of the honey made from the flowers of basswood, raspberry, alfalfa, and buckwheat were shown, and it was stated the raspberry honey took the highest prize at the Jamestown Exposition.

Miss Carrie W. Ormsbee of Brandon read a carefully prepared paper on "Forestry and Water Supply."

Mrs. D. C. Webster of Hartland gave a report of the orchids thus far found in that town. They number thirty-five.

Miss Nancy Darling described and exhibited in mounted specimens a number of the rarer plants of the Eshqua Bogs in Hartland.

Prof. A. J. Grout presented a paper on "Nature study in the Public Schools."

Mrs. E. B. Davenport of Brattleboro read a paper showing that the copious gathering of ferns for florists was becoming a serious menace to our native fern flora.

Mr. George L. Kirk of Rutland told of a new station, near that city, for the Chain Fern, *Woodwardia virginica* (L.) Sm. No less than two or three hundred plants were found. They were in groups upon a typical sphagnum bog. With them grew large quantities of *Osmunda cinnamomea* L., of which much was of the var. *incisa* J. W. Huntington. It was stated that specimens of this variety had been sent to the Gray Herbarium and were reported the first ever received from Vermont.

Mrs. Carrie E. Straw of Stowe reported an addition to the flora of Vermont in *Eruca sativa* L.

Miss Alice E. Bacon of Bradford gave some additional evidence as to the poisonous qualities of the Showy Lady's Slipper.

Mr. N. J. Giddings of the University of Vermont described the lifting power of a fungus growing under a tar-concrete walk, its lifting strength being estimated at two tons.

Many shorter papers on many topics were presented, and an account of the summer meeting on Mt. Mansfield was given by Mrs. Nellie F. Flynn of Burlington.

Officers of the Club were elected as follows: Pres., Ezra Brainerd, Middlebury. Vice-pres., C. G. Pringle, Burlington. Sec., Prof. L. R. Jones, Burlington. Treas., Mrs. Nellie F. Flynn, Burlington. Librarian, Miss Phoebe M. Towle, Burlington. Executive Committee,

D. S. Carpenter of Middletown Springs, Mrs. E. B. Davenport, Brattleboro, and Miss Nancy Darling, Woodstock. Committee to determine the time and place of the summer meeting, Dr. H. H. Swift, Pittsford, Mr. W. W. Eggleston, Washington, D. C., and Prof. L. R. Jones, Burlington.

It is probable that the summer meeting will be held at some point on Lake Champlain, during the week of the ter-centennial celebration of the discovery of the Lake, probably July 6 and 7.

BURLINGTON, VERMONT.

TUBERS ON THE ROOTS OF ELEOCHARIS INTERSTINCTA AND E. QUADRANGULATA.— One afternoon last October the writer, in company with Prof. M. L. Fernald, dug some specimens of *Eleocharis interstincta* and *E. quadrangulata* in Waban Lake, Wellesley, Massachusetts. On the roots of *E. quadrangulata* elliptical or oblong, pale, tuber-like growths were found varying in length from 2–8 mm. They were situated on the finer branches of the root at some distance back of the tip, but the portion of the root beyond the tuber had disappeared in all but the younger examples. The frequency of the occurrence was variable, some plants apparently bearing none, others several. Sections through all parts of the tuber showed the presence of the regular root-structure,— a central vascular cylinder, and a cortex which in this case was very much thickened and gorged with starch. On the same plant with fresh tubers, older tubers were found on older roots. These consisted of a shell-like outer covering, and the woody central cylinder, but were otherwise hollow, thus suggesting that the starchy material had been removed for use. The tubers of *E. interstincta* were similar in every respect.

It was first thought that the tubers were of the nature of galls, but no evidence was found to support this view. It would be interesting to know if similar tubers are found on these two species in other localities farther southward, and if there is any evidence that they are not true tuberous roots. The writer has been unable to find reference to the occurrence of such growths on the roots of any species of *Eleocharis* though similar ones are known to occur in *Cyperus*.— K. M. WIEGAND, Wellesley College.